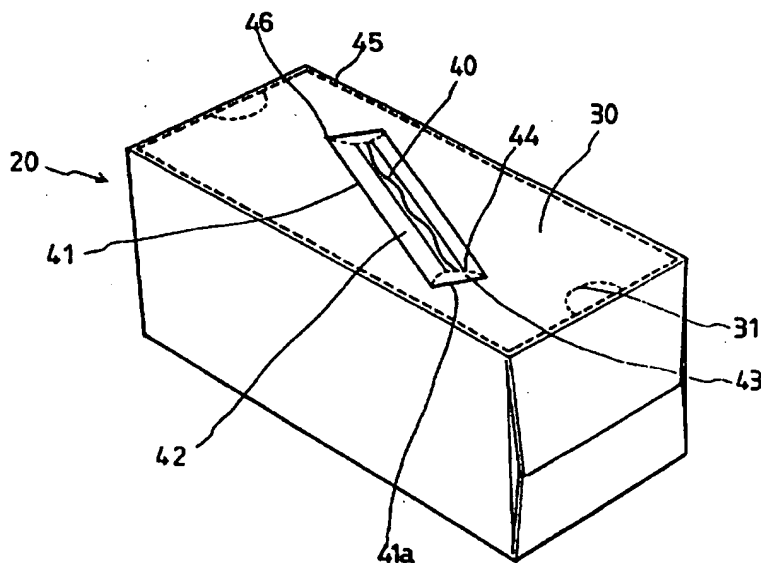




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>B65D 83/08</b>	<b>A1</b>	(11) International Publication Number: <b>WO 97/39964</b> (43) International Publication Date: 30 October 1997 (30.10.97)
(21) International Application Number: PCT/KR96/00148 (22) International Filing Date: 27 August 1996 (27.08.96) (30) Priority Data: 1996/12468          24 April 1996 (24.04.96)          KR (71)(72) Applicant and Inventor: SHIN, Suk, Kyun [KR/KR]; 107-80, Hyunjuh-dong, Suhdaemoon-ku, Seoul 120-080 (KR).	(81) Designated States: AU, CA, CN, JP, RU, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published With international search report.	

(54) Title: TISSUE BOX WITHOUT TRANSPARENT FILM



## (57) Abstract

A tissue box without transparent film from which about half portion of a following tissue followed by a leading tissue can be drawn when the leading tissue is drawn out. The tissue box (20) without transparent film is characterized by comprising an outlet (40) having the form of a straight line or a wave-shaped line being cut along a long axis direction or a short axis direction on a top sheet (30) of the tissue box (20) with a certain length, at least more than two depressed engraving lines (41, 41a) being spaced on both left and right side of the outlet (40) respectively, with a certain distance about the outlet, a tearing portion (43) for allowing the outlet (40) to be opened such that an uppermost tissue may be drawn out from the tissue box, and an erecting support portion (42) for allowing a following tissue followed by a leading tissue to stand erect.

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## TISSUE BOX WITHOUT TRANSPARENT FILM

### FIELD OF THE INVENTION

5           The present invention relates to a tissue box without transparent film, from which about half portion of a following tissue followed by a leading tissue can be drawn when the leading tissue is drawn out, more specifically relates to a tissue box without transparent film, in which an improved outlet prevents the damage of the tissue when the  
10           tissue is drawn out and allows the easy draw-out of the tissue with no failure in taking out the following tissue.

### BACKGROUND OF THE INVENTION

15           As an example of conventional boxes containing facial tissues, Fig.1 shows a carton 1 in the shape of a rectangular parallelepiped, in which a plurality of folded facial tissues 2 are stacked and intertwined with one another so as to be drawn out one after another.

20           A perforated line 4 for forming an oval outlet for the facial tissues 2 is provided on the top sheet or wall 3 of the carton 1.

25           A transparent film attached to the under surface of the top sheet 3 has a slot so that a facial tissues 2 half drawn out therethrough stands erect.

          In order to open the carton 1, a portion of the perforated line 4 is torn by pushing thereagainst with a finger tip, and then an oval piece defined by perforated line 4 is removed from top sheet 3.

30           In this kind of tissue box, the transparent film attached to the under surface of the top sheet 3 is inevitable to make the facial tissues 2 half drawn out

therethrough and stand erect, so the following difficulties are introduced:

1. The process attaching the transparent film to the under surface of the top sheet 3 with adhesives is not easy and requires quite a time and cost.

2. Because the slot of the transparent film is getting loose as the tissue is drawn out, the following tissue frequently fails to be followed by the leading tissue and to stand erect out of the box, whereby one has to insert his fingers or hand into the box to take out the following tissue dropped in the box.

3. The transparent film should be removed for the purpose of recycling of the empty box after using all tissues.

4. An additional labor is required to remove the transparent film attached with adhesives for recycling of the empty tissue box.

Another prior art generally related to the present invention is disclosed in the U.S. Patent 3,868,052 entitled "Moist tissue dispensing".

In the prior art, it provides for more positive and reliable and substantially automatic separation of each sheet being with drawn from a premoistened supply in a container, and this advantage is obtained by special configuration of a normally open aperture in the container through which the leading sheet of the supply is withdrawn.

More specifically this advantage is obtained by providing an aperture in the container wall wherein one or more of the side edges is formed with a free projection or projection extending into the opening of the aperture to engage transverse perforations or scores for impeding free passage of sheets being drawn from the supply within the container whereby each leading sheet may be reliably pulled

free of the supply during a normal steady pull on the web.

Though the prior art provides a sheet material dispensing package which helps the successive moistened tissue to be cut into a separate tissue when the successive moistened tissue is drawn out from the package, it does not teach the tissue box, made of a conventional carton, from which the transparent film is removed.

### SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a tissue box without transparent film which obviates the described disadvantages.

In accordance with one aspect of the present invention there is provided a tissue box without transparent film, in which an oval piece defined by a perforated line is removed from the top sheet of the tissue box.

In accordance with another aspect of the present invention there is provided a tissue box without transparent film, which comprising:

an outlet having the form of a straight line or a wave-shaped line being cut along a long axis direction or a short axis direction on a top sheet of the tissue box with a certain length, said outlet being formed on the top sheet of the tissue box:

at least more than two depressed engraving lines being spaced on both left and right side of the outlet respectively with a certain distance about the outlet:

a tearing portion for allowing the outlet to be opened such that a uppermost tissue may be drawn out from the tissue box, said tearing portion being defined by a transverse depressed engraving lines formed transversely at respective ends of the depressed engraving lines and a

substantially half circle-shaped perforated line of which respective ends meet respective ends of the transverse depressed engraving lines to form a substantial half circle such that the substantially half circle-shaped perforated line  
5 to be torn when pressed by a finger thereagainst:

and an erecting support portion for allowing a following tissue followed by a leading tissue to stand erect, said erecting support portion being defined by the outlet, the depressed engraving line, and the substantially half  
10 circle-shaped perforated line of the tearing portion, and having substantially uniform resilience along the outlet through the depressed engraving lines.

In accordance with still another aspect of the present invention there is provided a tissue box without transparent  
15 film, wherein said outlet is disposed diagonally on the top sheet of the tissue box.

In accordance with a further aspect of the present invention there is provided a tissue box without transparent film, wherein at least more than two outlets are disposed  
20 laterally along the short axis direction on the top sheet of the tissue box.

In accordance with a still further aspect of the present invention there is provided a tissue box without transparent film, wherein said outlet has the form of irregular  
25 wave-shaped line.

In accordance with another aspect of the present invention there is provided a tissue box without transparent film, wherein said tearing portion is disposed substantially in the middle of the outlet, said transverse depressed  
30 engraving line is cut or slotted, and said tearing portion is defined by a substantially circle-shaped perforation line.

In accordance with still another aspect of the present

invention there is provided a tissue box without transparent film, wherein said top sheet of the tissue box has perforated line along the periphery thereof for allowing the top sheet to be torn after using all tissues whereby the tissue box may be used as a container.

The characteristics of the present invention will be understood more fully from the following detail description and the accompanying drawings showing the preferred embodiments of the invention.

10

#### BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a perspective view of a conventional tissue box:

FIG. 2 is a perspective view of a preferred embodiment of the present invention:

FIG. 3 is a longitudinal section of FIG. 2;

FIG. 4 is a perspective view of FIG 2, illustrating a following tissue halfdrawned:

FIG. 5 is a cross section of FIG. 4;

FIG. 6 to FIG. 12 are perspective view of other embodiments of the present invention:

FIG. 13 is a perspective view of a tissue box used as a container after using all tissues.

#### 25 DETAILED DESCRIPTION OF THE INVENTION

FIG. 2 shows a tissue box according to a preferred embodiment of the present invention.

An oval piece defined by a perforated line is removed from the top sheet 30 of the tissue box 20, instead an outlet 40 having the form of a straight line or a wave-shaped line being cut along a long axis direction or a short axis direction on a top sheet 30 with a certain length is formed

in the middle portion of the top sheet 30.

At least more than two depressed engraving lines 41 are spaced on both left and right side of the outlet 40 respectively with a certain distance about the outlet 40.

5 A tearing portion 43 is formed respectively at each end of the outlet 40, wherein said tearing portion 43 is defined by a transverse depressed engraving lines 41a formed transversely at respective ends of the depressed engraving lines 41 and a substantially half circle-shaped  
10 perforated line 44 of which respective ends meet respective ends of the transverse depressed engraving lines 41a to form a substantial half circle.

Each end 46 of the depressed engraving lines 41, the substantially half circle-shaped perforated line 44, and the  
15 transverse depressed engraving lines 41a meets together.

An erecting support portion 42 is defined by the outlet 40, the depressed engraving line 41, and the substantially half circle-shaped perforated line 44 of the tearing portion 43.

20 Additional depressed engraving lines 41 may be formed in the erecting support portion 42.

A perforated line 45 forming a rectangular opening for another usage, for example as a container, after using all tissues is formed on the top sheet 30 of the tissue box 20.

25 While the outlet 40, the depressed engraving line 41, and the transverse depressed engraving line 41a forming a rectangle together with the depressed engraving line 41 are arranged diagonally on the top sheet 30 of the tissue box 20 in FIG. 1, they may be arranged parallel to the long or  
30 short axis direction on the top sheet 30.

Additionally, while the outlet 40 has the form of wave-shaped line, it may have the form of straight line as



shown in FIG. 6.

Now referring to FIG. 8 showing other embodiment of the present invention, the outlet 40, the depressed engraving line 41, and the transverse depressed engraving line 41a forming a rectangle together with the depressed engraving line 41 are arranged parallel to the short axis direction on the top sheet 30. An erecting support portion 42 having relatively wide width is disposed on the left side of the top sheet 30 of the tissue box 20, and an erecting support portion 42 having relatively narrow width is disposed on the right side of the top sheet 30 of the tissue box 20.

Referring to FIG. 9 showing another embodiment of the present invention, the outlet has the form of irregular wave-shaped line, wherein the transverse depressed engraving line 41a is cut or slotted.

Referring to FIG. 10, tearing portion 43 is disposed substantially in the middle of the outlet 40, wherein the transverse depressed engraving line 41a is cut or slotted, and the tearing portion 43 is defined by a substantially circle-shaped perforation line. For the purpose of easy tearing of the tearing portion 43, a cut-away portion 40a may be provided at one side of the tearing portion 43.

FIG. 11 is similar to FIG. 10 except that the outlet 40, the depressed engraving line 41, and the transverse depressed engraving line 41a forming a rectangle together with the depressed engraving line 41 are arranged parallel to the short axis direction and that the outlet 40 has the form of wave-shaped line.

FIG. 12 is similar to FIG. 11 except that outlet 40 has the form of straight line.

The operations of the shown embodiments according to

the present invention are discussed herebelow.

In FIG. 4 a tissue 10 stacked successively in a tissue box 20 is drawn out through the outlet 40 in a similar way to the prior art.

5       An erecting support portion 42 formed in both side of the outlet 40 has resilience which is exerted by the material property of the tissue box.

10       The erecting support portion 42 has substantially uniform resilience along the outlet 40 because of the depressed engraving line 41 having the form of straight line. Accordingly, the erecting support portion 42 presses the tissue under being drawn out smoothly with a uniform resilience at both side whereby the following tissue followed by the leading tissue and folded successively with the leading tissue is also pressed by the erecting support portion 15 42 such that the following tissue is being drawn until the leading tissue is completely separated from the following tissue. In general, about half portions of the respective leading tissue and following tissue are folded together, about 20 half portion of the following tissue stands erect out of the outlet 40 without dropping into the tissue box 20.

25       In this way the tissue in the tissue box 20 is successively drawn out without dropping, so it is more convenient in that it is not required one insert one's fingers or hand into the box to take out the following tissue dropped in the box, which occurs in the prior tissue box of which outlet is consisted of a transparent film. Furthermore, the outlet 40 may prevent the tissue damages caused by the weak material property thereof in case the tissue box has a 30 outlet having the form of substantially saw tooth-shaped line.

Referring to FIG. 6 showing other embodiment of the

present invention. it shows the similar embodiment to that of FIG. 4 except that the outlet has the form of straight line having substantially the same effects as the form of wave-shaped line.

5 Now referring to FIG. 7 showing another embodiment of the present invention, the outlet 40 and both erecting support portion 42 are disposed transversely to the long axis direction of the tissue box 20, which has substantially the same effects as the embodiment shown in FIG. 2. Two  
10 outlets are disposed laterally on the pop sheet 30 in FIG. 8, where one of them may have a wider opening width than that of the other.

Referring to FIG. 9 showing another embodiment of the present invention, the outlet 40 and both erecting  
15 support portion 42 are disposed parallel to the long axis direction of the tissue box 20, wherein the outlet 40 has the form of irregular wave-shaped line, and the transverse depressed engraving line 41a is cut or slotted, which also has substantially the same effects as the embodiment shown  
20 in FIG. 4.

In FIG. 10 the outlet 40 and both erecting support portion 42 are disposed parallel to the long axis direction of the tissue box 20, wherein the tearing portion 43 is disposed substantially in the middle of the outlet 40. The transverse  
25 depressed engraving line 41a is cut or slotted, and the tearing portion 43 is defined by a substantially circle-shaped perforation line. For the purpose of easy tearing of the tearing portion 43, a cut-away portion 40a is provided at one side of the tearing portion 43. The cut-away portion 40a  
30 renders one's fingers to be inserted into the tissue box such that the tearing portion 43 may be easily torn by the fingers.

FIG. 11 is similar to FIG. 10 except that the outlet 40 and both erecting support portion 42 are disposed transversely to the long axis direction of the tissue box 20 and that the outlet 40 has the form of wave-shaped line, which has substantially the same effects as the embodiment shown in FIG. 10.

FIG. 12 is similar to FIG. 11 except that the outlet 40 has the form of straight line, which has substantially the same effects as the embodiment shown in FIG. 11.

Finally referring to FIG. 13 showing a tissue box used as a container after using all tissues, wherein a perforated line is formed along the periphery on the top sheet 30 of the tissue box 20. An edge perforated line 31 may be provided at a side adjacent to the perforated line on the top sheet 30 to allow easy tearing of the top sheet 30. Various kinds of things may be reserved in the empty tissue box after removing the top sheet 30.

Therefore, the present invention provides the tissue box without transparent film, wherein the outlet formed on the top sheet of the tissue box may be disposed along the long axis direction of the top sheet or transversely to the long axis direction of the top sheet or may be disposed on any diagonal position of the top sheet, and the erecting support portion 42 having a resilience presses the tissue under being drawn out smoothly with a uniform resilience at both side whereby the tissue box 20 is successively drawn out without being dropped, and the outlet 40 may prevent the tissue damages caused by the weak material property thereof in case the tissue box has a outlet having the form of substantially saw tooth-shaped line.

While particular embodiments of the present invention have been illustrated and described, it would be obvious to

those skilled in the art that various other changes and modifications can be made without departing from the spirit and scope of the invention. Therefore, it is intended to cover in the appended claims all such changes and modifications  
5 that are within the scope of this invention.

WHAT IS CLAIMED IS:

1. A tissue box without transparent film comprising:  
an outlet having the form of a straight line or a  
5 wave-shaped line being cut along a long axis direction or a  
short axis direction on a top sheet of the tissue box with a  
certain length, said outlet being formed on the top sheet of  
the tissue box:

at least more than two depressed engraving lines  
10 being spaced on both left and right side of the outlet  
respectively with a certain distance about the outlet:

a tearing portion for allowing the outlet to be opened  
such that a uppermost tissue may be drawn out from the  
tissue box, said tearing portion being defined by a  
15 transverse depressed engraving lines formed transversely at  
respective ends of the depressed engraving lines and a  
substantially half circle-shaped perforated line of which  
respective ends meet respective ends of the transverse  
depressed engraving lines to form a substantial half circle  
20 such that the substantially half circle-shaped perforated line  
to be torn when pressed by a finger thereagainst:

and an erecting support portion for allowing a  
following tissue followed by a leading tissue to stand erect,  
said erecting support portion being defined by the outlet, the  
25 depressed engraving line, and the substantially half  
circle-shaped perforated line of the tearing portion, and  
having substantially uniform resilience along the outlet  
through the depressed engraving lines.

30 2. The tissue box without transparent film, as set  
forth in claim 1, wherein said outlet is disposed diagonally  
on the top sheet of the tissue box.

3. The tissue box without transparent film, as set forth in claim 1, wherein at least more than two outlets are disposed laterally along the short axis direction on the top sheet of the tissue box.

5

4. The tissue box without transparent film, as set forth in claim 3, wherein said outlets have different opening width.

10

5. The tissue box without transparent film, as set forth in claim 1, wherein said outlet has the form of irregular wave-shaped line.

15

6. The tissue box without transparent film, as set forth in claim 1, wherein said tearing portion is disposed substantially in the middle of the outlet, said transverse depressed engraving line is cut or slotted, and said tearing portion is defined by a substantially circle-shaped perforation line.

20

7. The tissue box without transparent film, as set forth in claim 6, wherein a cut-away portion 40a is provided at one side of the tearing portion 43 for easy tearing of the tearing portion 43.

25

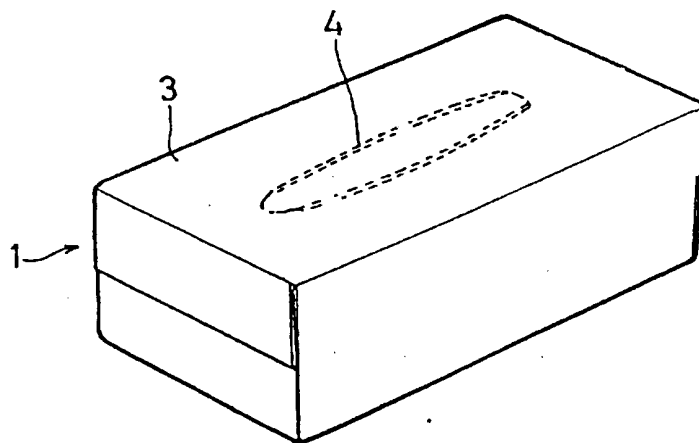
8. The tissue box without transparent film, as set forth in claim 1, wherein said top sheet of the tissue box has perforated line along the periphery thereof for allowing the top sheet to be torn after using all tissues whereby the

30

tissue box may be used as a container.

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Fig.1





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Fig. 2

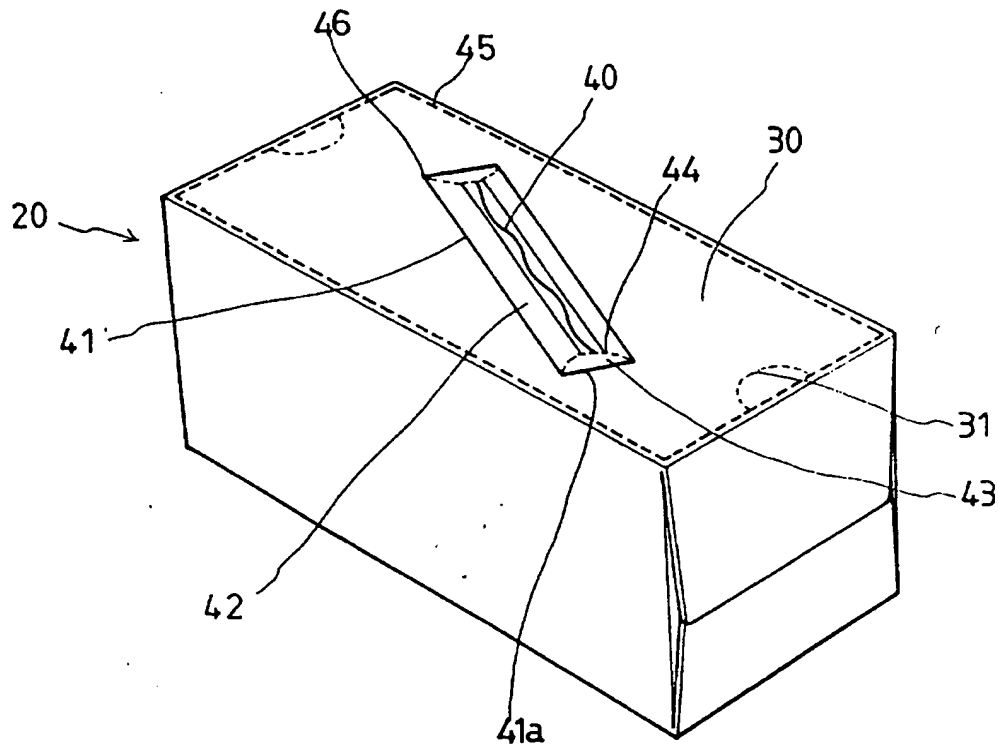
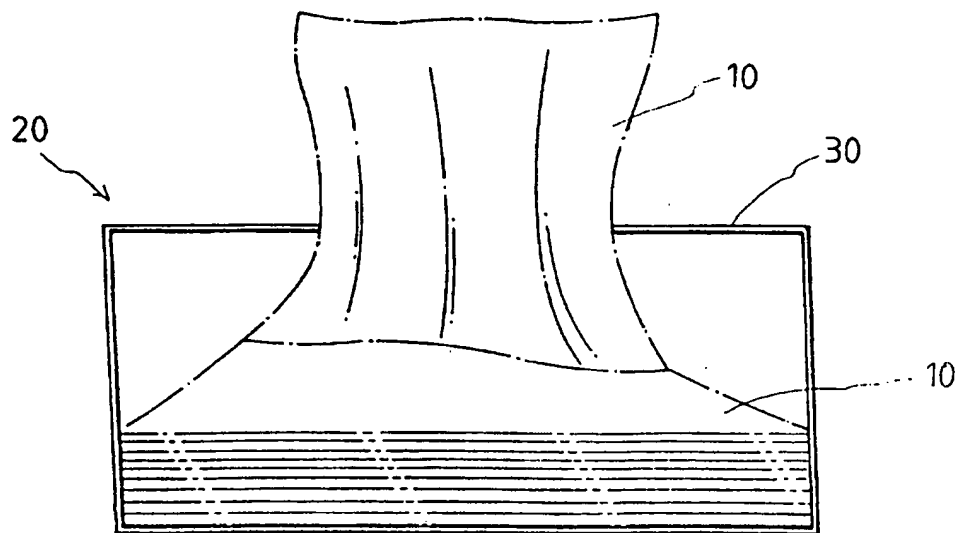


Fig. 3



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Fig.4

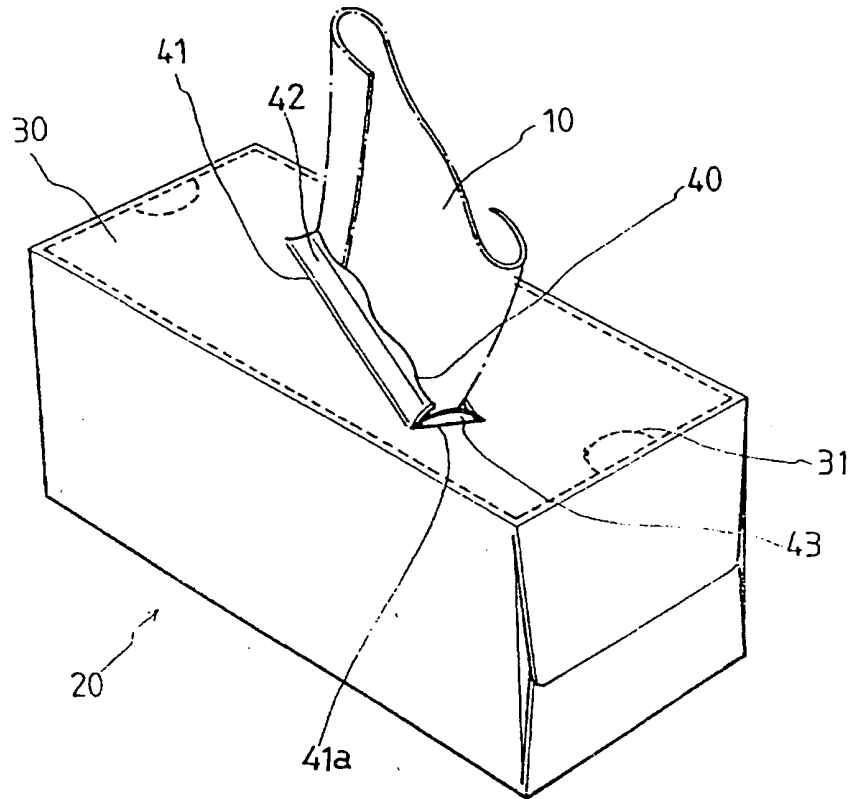
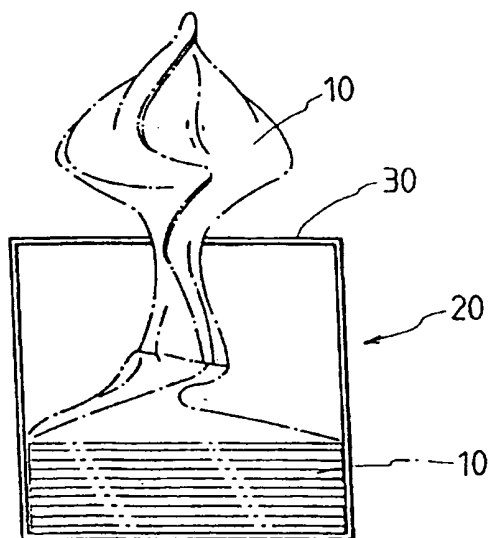


Fig.5



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Fig. 6

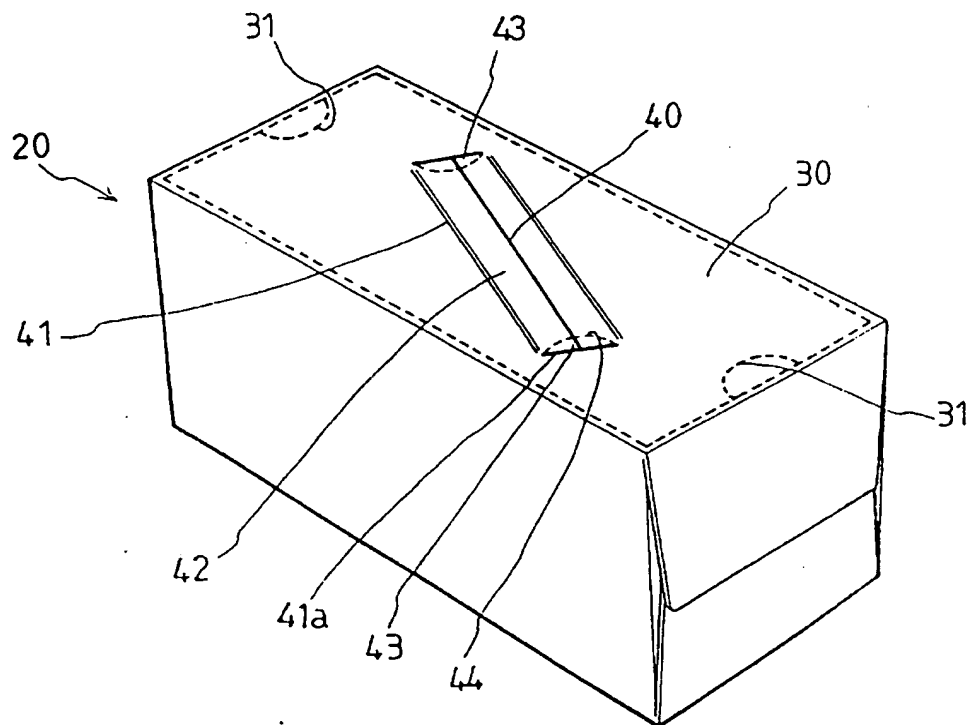
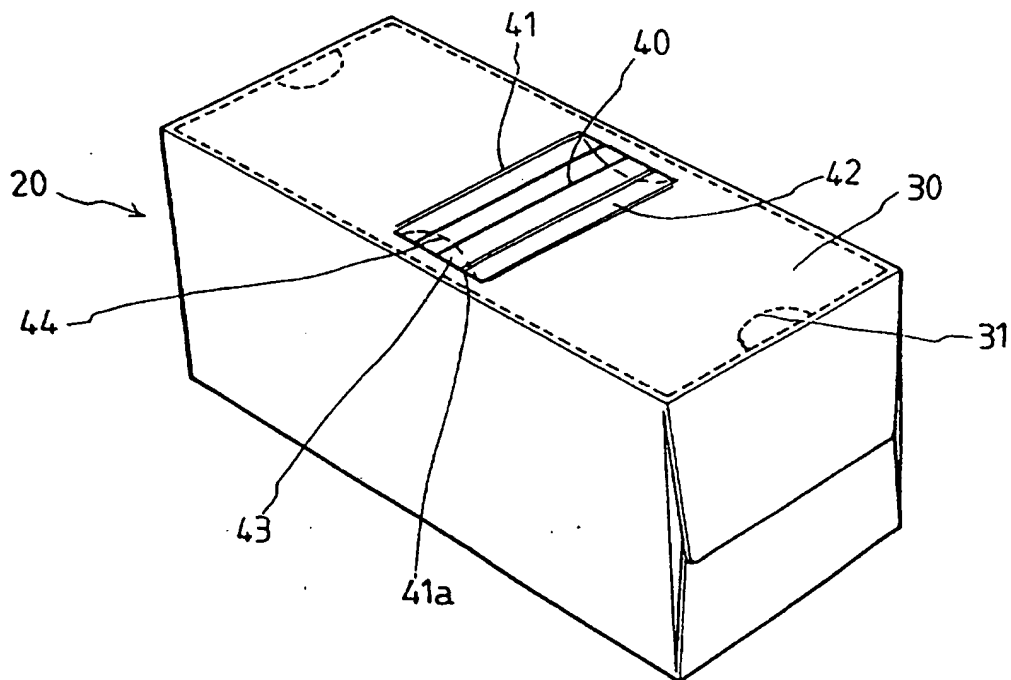


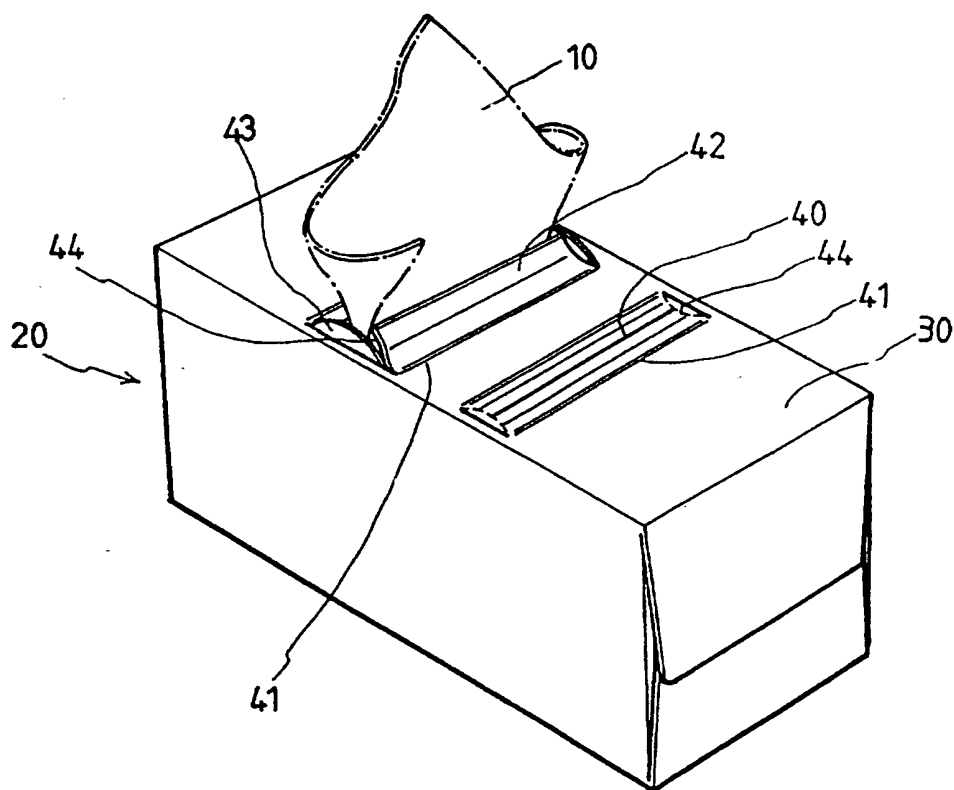
Fig. 7



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Fig.8



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Fig. 9

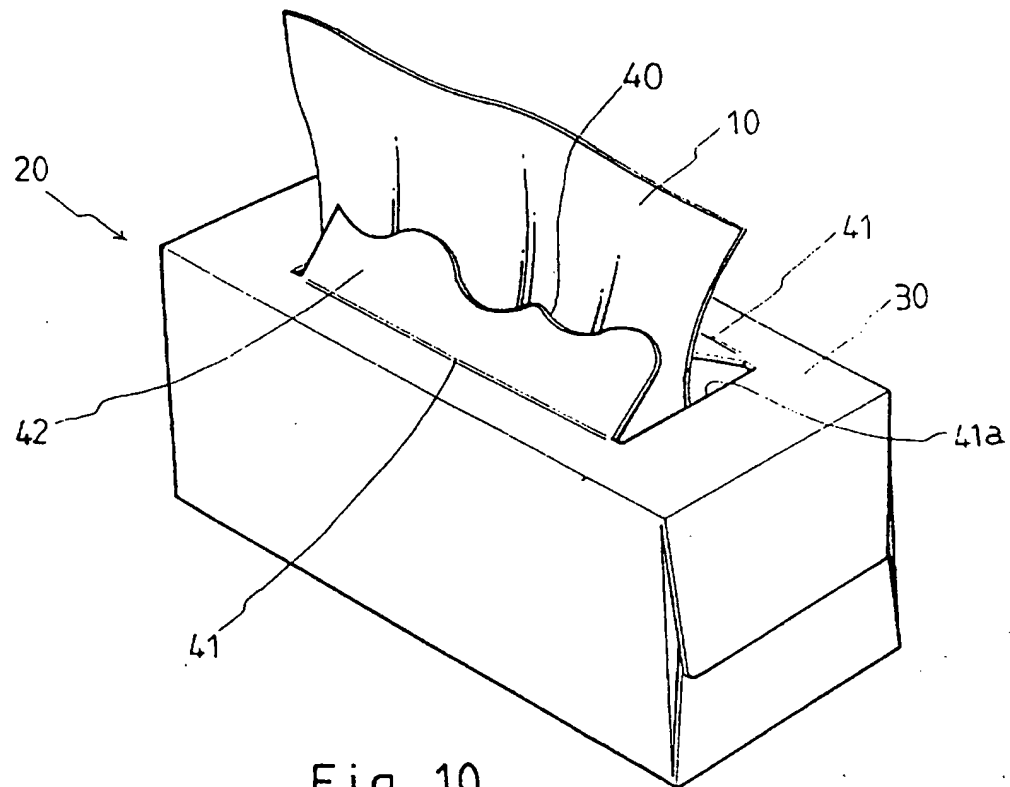
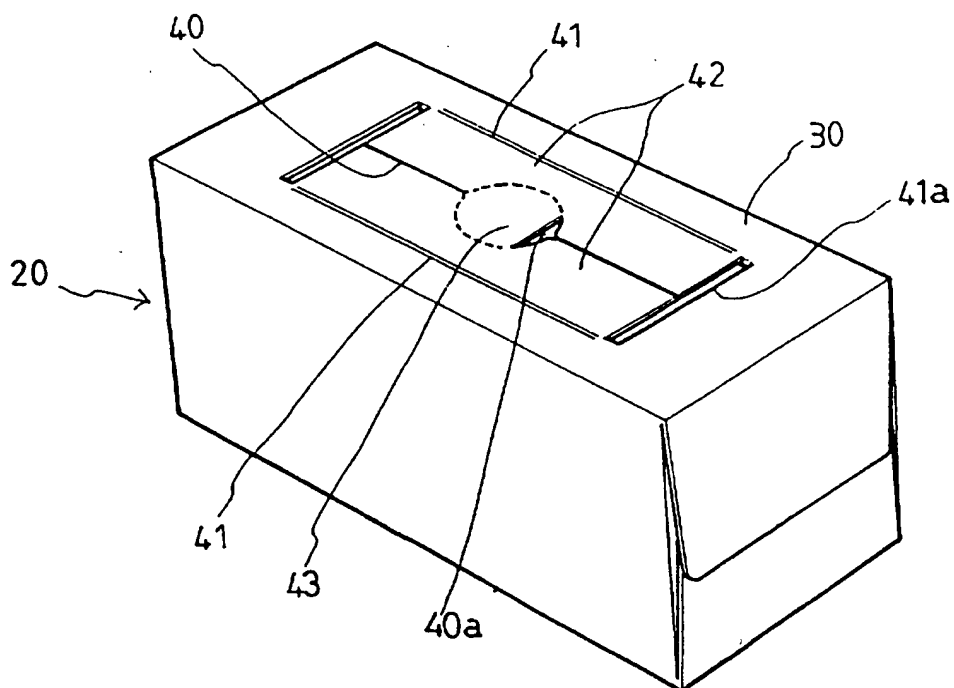


Fig. 10



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Fig. 11

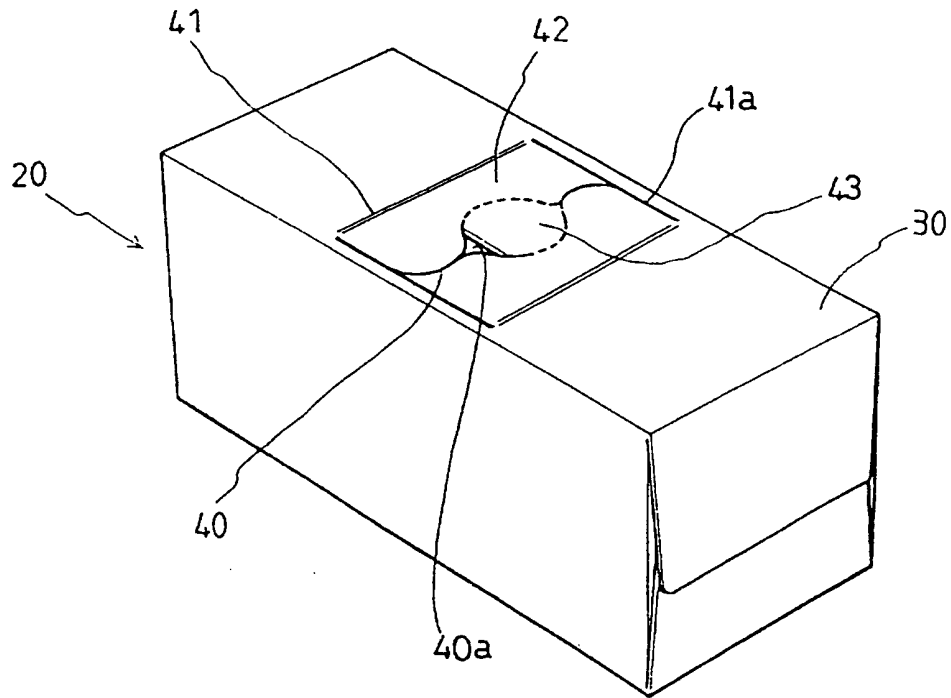
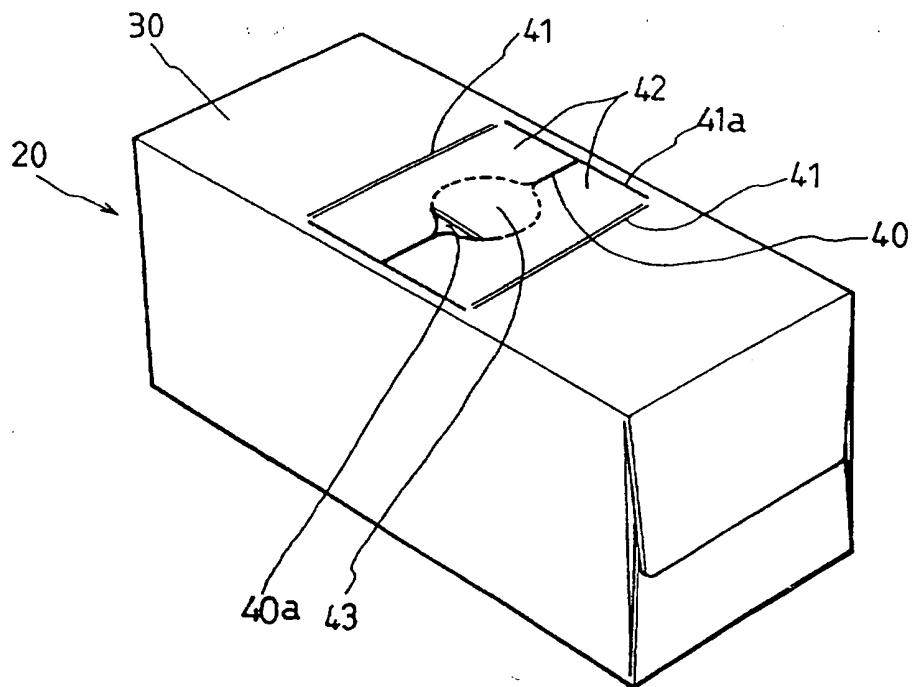
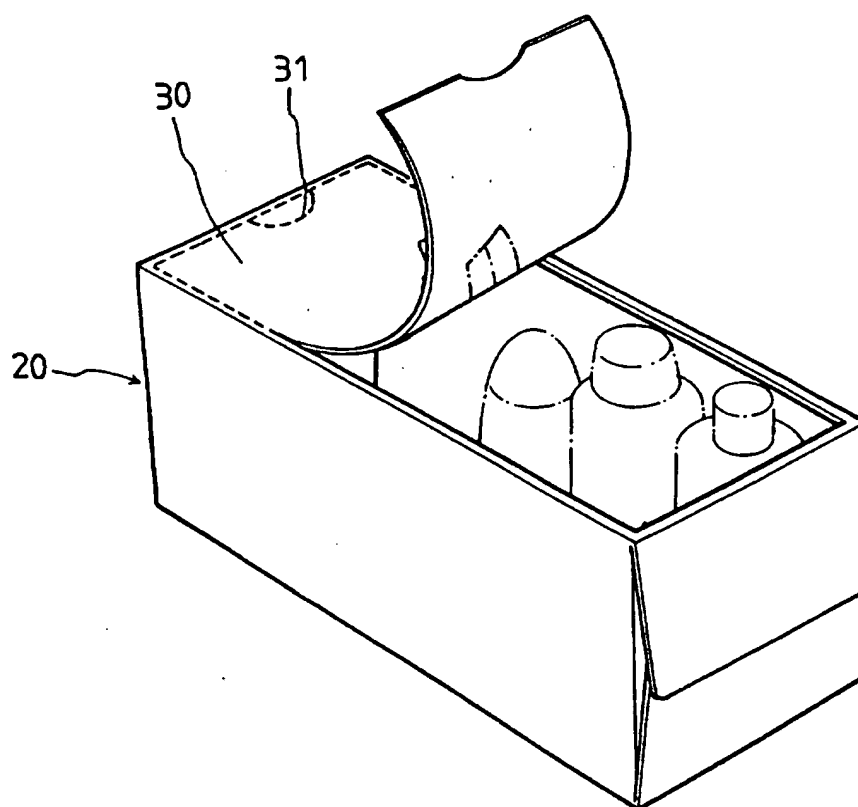


Fig. 12



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Fig. 13



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR 96/00148

## A. CLASSIFICATION OF SUBJECT MATTER

IPC<sup>6</sup>: B 65 D 83/08

According to International Patent Classification (IPC) or to both national classification and IPC

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Minimum documentation searched (classification system followed by classification symbols)

IPC<sup>6</sup>: A 47 K 10/00; B 65 D 81/22, 83/08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 986 479 A (BONK) 19 October 1976 (19.10.76), especially fig. 1,3,4,7.	1-8
A	GB 793 745 (KIMBERLEY-CLARK CORPORATION) 23 April 1958 (23.04.58), especially fig. 1-11.	1-8
A	US 3 369 698 A (SCHOLZ) 20 February 1968 (20.02.68), especially fig. 4,5. -----	1-8

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Date of the actual completion of the international search

13 December 1996 (13.12.96)

Date of mailing of the international search report

20 December 1996 (20.02.96)

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**INTERNATIONAL SEARCH REPORT**  
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US A	3986479	19-10-76	AT A	8146/74	15-06-77
			AT B	341714	27-02-78
			AU A1	74249/74	15-04-76
			BE A1	820967	03-02-75
			BR A	7408486	04-11-75
			CA A1	1035329	25-07-78
			DE A1	2448042	17-04-75
			DE C2	2448042	11-07-85
			DK A	5342/74	09-06-75
			ES U	224553	16-02-77
			ES Y	2245544	16-04-77
			ES Y1	2245544	16-05-77
			ES Y	2245544	16-06-77
			ES Y1	2245544	16-07-77
			FR A1	2267250	05-08-75
			FR A1	2267250	26-09-75
			FR B1	2267250	10-07-78
			FR B1	2262505	01-09-78
			IE B	41616	13-02-80
			IT A	1021757	20-02-78
			JP A2	50076469	26-06-75
			JP B4	57049213	20-10-83
			NL A	7413447	15-04-76
			NO A	743647	11-04-75
			NZ A	180744	25-09-78
			PH A	14594	02-10-81
			SE A	7412754	14-04-75
			ZA A	7406456	24-05-76
			US A	4101026	18-07-78
			US A	4535912	20-08-85
GB A	793745		keine - none - rien		
US A	3369698	20-02-68	keine - none - rien		

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